CORRECTIVE ACTION PROGRAM
2010 ANNUAL REPORT/UPDATE
PERMIT DEP/HWM-043-061

United Technologies Corporation
Pratt & Whitney Division

January 2011

Volume 1 of 3

Prepared for

UNITED TECHNOLOGIES CORPORATION
PRATT & WHITNEY DIVISION
400 Main Street
East Hartford, Connecticut 06108

Prepared by

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An Employee Owned Company

LEA Comm. No. 88UT716

Pratt & Whitney
400 Main Street
East Hartford, CT 06108

Pratt & Whitney
A United Technologies Company

January 17, 2011

State of Connecticut
Department of Environmental Protection
Bureau of Waste Management
79 Elm Street
Hartford, Connecticut 06106-5127

Attn: Carmen Holzman

RE: 2010 Corrective Action Annual Report
United Technologies Corporation/Pratt & Whitney Division
400 Main Street, East Hartford, Connecticut
Permit DEP/HWM-043-061

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

UNITED TECHNOLOGIES CORPORATION
PRATT & WHITNEY DIVISION

David Russell
Director, Facilities & Services

Attachment

cc: Robert Isner, Connecticut Department of Environmental Protection (w/o attachment)
Diane Duva, Connecticut Department of Environmental Protection (w/o attachment)
Maurice Hamel, Connecticut Department of Environmental Protection
Gil Richards, Connecticut Department of Environmental Protection
Lauren Levine, United Technologies Corporation
Terry Robinson, Pratt & Whitney
Bill Chudzik, Pratt & Whitney
Brian Cutler, Loureiro Engineering Associates

Loureiro Engineering Associates, Inc.

January 17, 2011

State of Connecticut
Department of Environmental Protection
Bureau of Waste Management
79 Elm Street
Hartford, Connecticut 06106-5127

Attn: Carmen Holzman

RE: 2010 Corrective Action Annual Report
United Technologies Corporation/Pratt & Whitney Division
400 Main Street, East Hartford, Connecticut
Permit DEP/HWM-043-061

Dear Ms. Holzman:

On behalf of our client, United Technologies Corporation (UTC)/Pratt & Whitney Division, we have prepared this letter and attached annual report to provide the Connecticut Department of Environmental Protection with the status of activities being undertaken to comply with the requirements of Section IV, Part N of the above referenced permit. Specifically, this letter provides a status of those investigation and remediation activities associated with releases of hazardous waste and hazardous substances at or from the 400 Main Street, East Hartford, Connecticut facility. The annual report has been formatted to provide an update:

- On the 2010 Program Level Projects;
- On the 2010 investigation activities;
- On the 2010 mitigation and remediation activities;
- On the 2010 maintenance and monitoring activities; and
- On the cost estimate for planned investigation and remediation activities and operation and maintenance of those remediation systems presently in place.

We trust that the information contained herein meets with your satisfaction. Should you have any questions or comments, please do not hesitate to contact Lauren Levine of UTC at (860) 728-6520 or me at (860) 410-2968.

Sincerely,
LOUREIRO ENGINEERING ASSOCIATES, INC.

Brian A. Cutler, P.E., L.E.P.
Senior Vice President

Attachment

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FIGURES

APPENDICES

ACRONYMS

CTDEP	Connecticut Department of Environmental Protection
CT ETPH	Connecticut Extractable Total Petroleum Hydrocarbons
DSN	Discharge Serial Number
ECAF	Environmental Condition Assessment Form
ELUR	Environmental Land Use Restriction
GAC	Granular Activated Carbon
GB PMC	GB Pollutant Mobility Criteria
GWTS	Groundwater Treatment System
HCS	Hydraulic Control System
HWM	Hazardous Waste Management
IDEC	Industrial/Commercial Direct Exposure Criteria
LEA	Loureiro Engineering Associates, Inc.
LEP	Licensed Environmental Professional
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
OPM	Office of Policy and Management
PCBs	Polychlorinated Biphenyls
PRA	Potential Release Area
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
RAP	Remedial Action Plan
RCP	Reasonable Confidence Protocol
RCRA	Resource Conservation and Recovery Act
RCSA	Regulations of Connecticut State Agencies
RSRs	Connecticut Remediation Standard Regulations
SPDES	State Pollutant Discharge Elimination System
SSVS	Sub-slab Ventilation System
SVOC	Semivolatile Organic Compounds
UTC	United Technologies Corporation
VOCs	Volatile Organic Compounds
WWTP	Wastewater Treatment Plant

UNITS

gpm	gallons per minute
mg/kg	milligrams per kilogram

1. INTRODUCTION

United Technologies Corporation/Pratt & Whitney Division (UTC/Pratt & Whitney) submitted a Resource Conservation and Recovery Act (RCRA) Part B Permit Application to the regulatory agencies on September 5, 1991 for the Pratt & Whitney facility located at 400 Main Street in East Hartford, Connecticut (i.e., 400 Main Street facility). In response to the September 5, 1991 submittal and subsequent amendments, a RCRA Part B Permit to Operate a Connecticut Hazardous Waste Facility (Permit No. DEP/HWM-043-061) was issued by the Connecticut Department of Environmental Protection (CTDEP) on September 29, 2005. The permit authorizes the storage of hazardous wastes, non-hazardous wastes, universal wastes, and used oil generated from the design, manufacture, assembly, and testing of aircraft jet engine components and the storage and management of wastes from other UTC off-site locations. The Permit incorporates conditions requiring the implementation of a formal Corrective Action program.

Section IV, Part N of the RCRA Part B Permit requires the investigation and remediation of all hazardous waste or hazardous substances released at or on the 400 Main Street facility. The requirements for investigation and remediation are referred to herein as Corrective Action obligations. Section V of Permit No. DEP/HWM-043-061 is a Compliance Schedule associated with Corrective Action obligations for the facility. The first required task was the preparation and submission of an Environmental Condition Assessment Form (ECAF). The ECAF was submitted to the CTDEP on February 24, 2006. The CTDEP is currently reviewing the ECAF. Upon review of the ECAF, the CTDEP would notify UTC/Pratt & Whitney Division whether review and approval by the CTDEP of the remaining investigation/remediation activities will be required or whether a Licensed Environmental Professional (LEP) may verify that all known releases of hazardous waste or hazardous substances at the facility have been investigated and remediated in accordance with Sections 22a-133k of the Regulations of Connecticut State Agencies (RCSA), known as the Remediation Standard Regulations (RSRs).

1.1 Purpose

This annual report has been prepared to provide the CTDEP with the status of activities being undertaken to comply with the requirements of Section IV, Part N of Permit No. DEP/HWM-043-061. Specifically, this report provides a status of those investigations, mitigation, and remediation activities associated with releases of hazardous waste and hazardous substances at or from the UTC/Pratt & Whitney Division, 400 Main Street, East Hartford, Connecticut facility. This annual report provides an update:

- On those investigation, mitigation and remediation activities conducted during the period from December 16, 2009 through December 15, 2010 (hereinafter the reporting period);

- On monitoring and maintenance for previously completed projects; and

- Of the cost estimate for planned investigation and remediation activities and operation and maintenance of those remediation systems presently in place.

Revisions of the cost estimate will continue to be provided on an annual basis and the current estimate is included as Appendix C. Remedial Action Plans (RAPs) for future proposed remedies will be submitted to the CTDEP in accordance with the requirements of Permit No. DEP/HWM-043-061. Detailed results and completed reports are maintained by UTC.

The investigation, mitigation and remediation activities being conducted at the Site follow consistent quality assurance/quality control (QA/QC) requirements. These requirements are summarized in a Quality Assurance Project Plan (QAPP) which has been prepared. The level of QA/QC information in the laboratory reports is consistent with the Reasonable Confidence Protocol (RCP) requirements even prior to September 1, 2007 when these requirements became effective.

1.2 Scope

This report applies to the investigation, mitigation, remediation, maintenance, and monitoring activities underway during the reporting period at the UTC/Pratt & Whitney Division facility located at 400 Main Street, East Hartford, Connecticut (hereinafter referred to as the "Site"). The facility encompasses approximately 769 acres of contiguous land. Pratt & Whitney initiated aircraft engine manufacturing operations in East Hartford in December 1929. Current operations are conducted in an approximate 4-million square-foot complex and include administration and management, manufacturing, testing, research and development, and ancillary services. All of these activities take place in the western portion of the 769-acre property. The Rentschler Airport and the Klondike Area occupy the eastern portion of the property. UTC/Pratt & Whitney previously used these two areas as an airport and a storage/testing area, respectively.

1.3 Report Format

The following sections of this annual report/update have been prepared to document corrective action activities and costs associated with the implementation of future Corrective Action obligations. Specifically,

- Section 2 of this report provides a summary description of the program level projects underway during the reporting period;
- Section 3 provides a summary description of investigation activities performed during the reporting period;
- Section 4 provides a description of mitigation and remediation activities performed during the reporting period;
- Section 5 provides a description of maintenance and monitoring activities associated with completed remediation projects performed during the reporting period; and
- Section 6 provides a description of the cost estimate for future Corrective Action obligations which is presented in Appendix C.

2. 2010 PROGRAM LEVEL PROJECTS

Program level activities are those that relate to the entirety of the 400 Main Street facility and do not involve the performance of investigation, mitigation or remediation. During 2010, one program level project was completed, this *2010 Annual Report/Update*.

In addition, a QAPP and a Public Participation Plan have been prepared to comply with the requirements of the RCRA Part B Permit and to provide consistency between the investigation, mitigation and remediation activities performed at the Site. These documents will be finalized upon receipt of the response to the ECAF. Each project is described in greater detail below.

2.1 2010 Annual Report/Update

As noted in Section 1, an ECAF was submitted to the CTDEP on February 24, 2006 and is currently under review. Although a final response to the February 24, 2006 ECAF has not yet been received, Section IV, Part N of Permit No. DEP/HWM-043-061 contains a reference to an annual report/update regarding corrective action activities at the 400 Main Street facility. The preparation of this document which includes an overview of investigation, mitigation and remediation activities at the 400 Main Street facility is intended to satisfy the annual report/update requirement referenced in the permit.

2.2 Quality Assurance Project Plan

A QAPP has been prepared for the Site to document the current QA/QC procedures being utilized during the ongoing investigation and remediation activities at the 400 Main Street facility. Section V, Paragraph 6(b)(iii) of the RCRA Part B Permit requires the preparation of a QAPP to ensure that the data are of sufficient quality to make decisions regarding the investigation and remediation at the site. The QAPP takes into account the *Laboratory Quality Assurance Quality Control Guidance - Reasonable Confidence Protocols Guidance Document* developed by the CTDEP. The QAPP also documents the auditing program to ensure the objectives of the QAPP are being met.

2.3 Public Participation Plan

A Public Participation Plan has been prepared to document the public participation procedures related to remediation activities to be conducted at the 400 Main Street facility. Section V, Paragraph 6(b)(i) of the RCRA Part B Permit requires the preparation of a Public Participation Plan to ensure the public is provided the opportunity to comment on planned remediation activities and prior to making a determination that remediation is complete.

3. 2010 INVESTIGATION ACTIVITIES

This Section provides a brief summary of those subsurface characterization (investigation) activities that were performed during the reporting period. The investigation activities preformed during the reporting period are described below. The general location of each area investigated during the reporting period is depicted on Figure 3-1.

3.1 A Building Part 2 Study Area Phase II/III Subsurface Investigation

A Phase II/Phase III subsurface investigation was performed to assess the impact of current and historical operations in the A Building Part 2 Study Area on soil and groundwater within and emanating from the study area. The A Building Part 2 Study Area is comprised of the eastern and western portion of A Building, which is located on the western portion of the Site. Constructed in 1929, A Building has been actively used for the manufacture of aircraft engines and associated components since the time of construction. A Building as a whole encompasses approximately 400,000 square feet, of which approximately 118,000 square feet make up the Part 2 Study Area. A Phase II/Phase III subsurface investigation of the A Building Part 1 Study Area (central portion of A Building) was completed in 2009.

The A Building Part 2 Phase II/Phase III subsurface investigation included the collection of wood block, concrete, soil, and groundwater samples from a total of 14 Potential Release Areas (PRAs) identified within the study area. Several subsurface investigations were completed prior to performing this investigation. The previous investigations included the collection of wood block, concrete, groundwater and soil vapor samples and the results of those efforts were used to complete the study area investigation.

The subsurface investigation resulted in the overall adequate characterization of the study area in the context that the limits of releases identified were confirmed through sampling and analytical testing. Investigations of the A Building Part 2 Study Area are considered complete. Based on the results of the investigations that have been completed to date, soil remediation will be required to address Connecticut Extractable Total Petroleum Hydrocarbons (CT ETPH), semivolatile organic compound (SVOC), volatile organic compound (VOC), and polychlorinated biphenyl (PCB) contaminated soil. The remediation will likely entail the use of engineered and administrative controls for addressing soil contamination in the A Building Part 2 Study Area.

With regard to groundwater, administrative controls in the form of an Environmental Land Use Restriction (ELUR) will be required to address the presence of compounds in groundwater at concentrations in excess of the volatilization criteria. An ELUR will also be required to restrict

the area to industrial/commercial use, and vapor mitigation controls (e.g. sub-slab ventilation system) will be required. In addition to physical remediation activities, groundwater monitoring will be necessary for the study area to fulfill the post-remediation requirements of the RSRs and to further characterize groundwater quality.

3.2 South Test Study Area Phase II/III Subsurface Investigation

A Phase II/Phase III subsurface investigation was performed to assess the impact of current and historical operations in the South Test Study Area on soil and groundwater within and emanating from the study area. Approximately 23.1 acres in size, the main features of the Study Area are the former South Test building, the former South Test Tank Farm, the Test Laboratory (or Burner Rig) Building, the South Test Tank Farm and associated transfer station, and a large parking area. Constructed in 1945, the former South Test building and associated tank farm were used for the production and testing of jet engines. The former South Test building was demolished in 2006, and the area remains vacant.

The subsurface investigation resulted in the overall adequate characterization of the study area in the context that the limits of releases identified were confirmed through sampling and analytical testing. Investigations of the South Test Study Area are considered complete. Based on the results of the investigations that have been completed to date, soil remediation will be required to address CT ETPH, SVOC, VOC, and PCB contaminated soil. The remediation will likely entail the use of engineered and administrative controls for addressing soil contamination in the South Test Study Area.

During the performance of the investigation, several soil samples collected from the upper two feet of soil contained SVOCs (specifically benzo(a)pyrene) at concentrations greater than thirty times the Industrial/Commercial Direct Exposure Criteria (IDEC). UTC was notified within seven days of determining that the significant environmental hazard existed. The significant environmental hazards in shallow soil initially identified were remediated within ninety days of notification; additional exceedances have since been identified which require formal notification. The soil remediation activities and notification process are discussed in Section 4 of this report.

3.3 E Building Study Area Phase II/III Subsurface Investigation

A Phase II/Phase III subsurface investigation of the E Building Study Area is currently in progress to assess the impact of current and historical operations on soil and groundwater within and emanating from the study area. E Building is approximately 200,000 square feet in size and is located in the northwest portion of the Site. E Building was constructed in 1940 and has been actively used for the manufacture of aircraft engines and engine components since the time of

construction. The investigation is scheduled to be completed in 2011 and will be discussed in additional detail in the 2011 annual report.

3.4 Northwest Area Groundwater/Surface Water Interaction Study

A groundwater/surface water interaction study was completed in the northwest portion of the Site between October 2009 and March 2010 to gain a greater understanding of the effects of Willow Brook and potential other hydraulic influences on groundwater flow and contaminant transport in the northwest portion of the Site. The study activities included: 1) the installation of four piezometer/surface water stilling well clusters in Willow Brook; 2) the installation of electronic water level data loggers in each piezometer/surface water stilling well location as well as several monitoring wells located in the northwestern portion of the Site; 3) the collection of water level measurements from select small diameter groundwater monitoring wells within the study area to augment the data collected utilizing data loggers; and 4) the collection of groundwater samples from select wells within the study area. The general conclusions from the investigation are as follows.

- The hydrology of Willow Brook prevents significant migration of VOCs beyond Willow Brook. Chlorinated VOCs are likely entering Willow Brook and being transported along the stream bed of Willow Brook, and fluctuations in aquifer conditions cause the occasional occurrence of VOCs beyond (north of) the brook.
- Chlorinated VOCs were detected in piezometers installed in close proximity (the most downgradient location to the receiving water body) to Willow Brook at concentrations exceeding the applicable Ambient Water Quality Criteria and the default numeric Surface Water Protection Criteria.
- Chlorinated VOCs were detected in shallow and deep groundwater at concentrations exceeding both the numeric Residential and Industrial/Commercial Volatilization Criteria. It should be noted that no buildings currently exist in the portion of the Site where the study was conducted.
- No exceedances of applicable regulatory criteria were detected in any of the monitoring wells located beyond Willow Brook during this investigation.

Additional monitoring activities were initiated in October 2010 and will continue into the spring of 2011 to further assess the fate and transport of groundwater impacted by VOCs in the northwest portion of the Site. The results will be summarized in the 2011 Annual Report/Update.

3.5 Northwest Area Groundwater Monitoring

Routine groundwater sampling continues as part of a groundwater investigation in the northwest portion of the Site. The groundwater sampling is being performed to refine the understanding of the current groundwater quality within that portion of the Site and to obtain additional data regarding groundwater hydraulic conditions beneath the facility. Data obtained during the sampling events are evaluated and recommendations are made for additional investigations as needed.

In 2010, groundwater samples were collected on a monthly basis though March and quarterly though September. The frequency of groundwater sampling was reduced from monthly to quarterly in 2010 based on the groundwater results as well as the performance monitoring data collected for the operation of the Groundwater Hydraulic Control and Treatment System located in the northwest portion of the Site. The Groundwater Hydraulic Control and Treatment System (which has been operational since April 2009) was installed to mitigate the migration of groundwater contaminated with hexavalent chromium beneath the northwest portion of the Site. The results of the sampling and monitoring indicate that the Groundwater Hydraulic Control and Treatment System is effectively achieving the aforementioned remediation goal as evidenced by decreasing concentrations in groundwater collected from monitoring wells located downgradient of the system.

4. 2010 MITIGATION AND REMEDIATION ACTIVITIES

This section provides a summary description of mitigation and remediation activities that were performed during the 2010 reporting period. This section also includes a description of operation and maintenance activities associated with active mitigation or remediation systems.

4.1 2010 Mitigation Projects

This section describes mitigation activities performed during the reporting period. This section also includes a description of operation and maintenance activities associated with active mitigation systems.

4.1.1 Sub-Slab Ventilation/Depressurization Systems

During 2007, a sub-slab ventilation/depressurization system (SSVS) was installed in a portion of G Building. During 2009, SSVSs were installed in portions of B and D Buildings; A and C Buildings; and the former D-161 Area. The SSVS consisted of horizontal trenching to provide coverage of the targeted areas, and an equipment room to house filters and blower to clean and exhaust vapor to the outside. The G Building SSVS has been in operation since April 2008 and the B and D Buildings, A and C Buildings, Former D-161 Area SSVSs have been in operation since the third quarter of 2009.

Operation, maintenance, and monitoring activities continued in 2010. All four systems are routinely monitored to check for leaks and unusual noises and vibrations, verify proper operation of the relief valve, and to inspect the blower air filters. No issues were noted during these inspections and each SSVS has been operating satisfactorily with operating pressures and temperatures within acceptable ranges.

4.1.2 G Building Basement Groundwater Treatment System

Groundwater from the G Building Basement Dewatering sump is treated through liquid phase granular activated carbon (GAC) prior to discharge to the sanitary sewer. The treatment system is monitored on a periodic basis in accordance with the terms and conditions of the individual State Pollutant Discharge Elimination System (SPDES) permit to ensure proper operating conditions (Permit # SP0000191, Discharge Serial Number [DSN] 028). The GAC is replaced on an as needed basis.

4.1.3 G Building Tunnel Groundwater Treatment System

Groundwater from the G Building Tunnel Dewatering sump is treated through liquid phase GAC prior to discharge to the sanitary sewer. The treatment system is monitored on a daily basis in accordance with the terms and conditions of the individual SPDES permit to ensure proper operating conditions (Permit # SP0000191, DSN-029). The GAC is replaced on an as needed basis.

4.1.4 C Building Basement Groundwater Treatment System

Groundwater from the C Building Basement Dewatering sump is treated through liquid phase GAC and ion exchange resin prior to discharge to the sanitary sewer. The treatment system is monitored on a periodic basis in accordance with the terms and conditions of the individual SPDES permit to ensure proper operating conditions (Permit # SP0000191, DSN-032). The GAC is replaced on an as needed basis.

4.1.5 Engineering Area Tunnel Groundwater Treatment System

Groundwater from the Engineering Tunnel dewatering sumps is treated through an air stripper. The treatment system is inspected on a periodic basis to ensure proper operating conditions. The air stripper packing is periodically cleaned as necessary. The treatment system is monitored on a periodic basis in accordance with the terms and conditions of the individual SPDES permit to ensure proper operating conditions (Permit # SP0000191, DSN-021).

4.1.6 K Building Basement Groundwater Treatment System

Groundwater from the K Building Basement Dewatering sumps is treated through an ion exchange system prior to discharge to the sanitary sewer. The treatment system is monitored on a periodic basis in accordance with the terms and conditions of the individual SPDES permit to ensure proper operating conditions. The ion exchange resin is replaced on an as needed basis (Permit # SP0000191, DSN-033).

4.2 **2010 Remediation Projects**

This section details soil, groundwater, surface water, or sediment remediation activities that were performed during the 2010 reporting period. This section also includes a description of operation and maintenance activities associated with active remediation systems.

4.2.1 Groundwater Hydraulic Control and Treatment System

The Groundwater Hydraulic Control and Treatment System was installed in 2009 to mitigate the migration of groundwater contaminated with hexavalent chromium beneath the northwest portion (in the vicinity of Office Building E and Willow Brook) of the Site. With the exception of planned maintenance shut-downs, the system operated continuously during 2010. The Groundwater Hydraulic Control and Treatment System consists of two subsystems: the hydraulic control system (HCS) and the groundwater treatment system (GWTS). The HCS consists of four, 8-inch diameter extraction wells with electric submersible pumps. The pumps are connected to a common underground header and the extracted water is transferred underground to the Main Facility and then in aboveground piping to the GWTS.

The Groundwater Hydraulic Control and Treatment System is operating in accordance with a Treatment System Modification Approval issued by the CTDEP on February 24, 2009 to discharge pretreated wastewaters to the Colt Street Wastewater Treatment Plant (WWTP) under DSN 001-B. The pretreated groundwater is then treated with other industrial wastewaters and ultimately discharged to the Connecticut River as discharge DSN 001 in accordance with the terms and conditions of the National Pollutant Discharge Elimination System (NPDES) permit number CT0001376.

Several modifications have been made to the Groundwater Hydraulic Control and Treatment System since June 2009. These modifications include the operation of additional tanks, mixers, chemical feed pumps, and treatment chemicals. All modifications have been formally communicated to the Permitting and Enforcement Division of the Bureau of Materials Management & Compliance Assurance at the CTDEP and made with the objective of optimizing the performance of the treatment system. The CTDEP has concurred with all system modifications.

As stated previously, the results of groundwater sampling and water level measurements collected as part of performance monitoring indicate that the Groundwater Hydraulic Control and Treatment System is effectively achieving the remediation goal of mitigating the migration of groundwater contaminated with hexavalent chromium beneath the northwest portion of the Site.

4.2.2 Steam Tunnel Product Recovery System

The operation of the Steam Tunnel Product Recovery System located within the former Photo Laboratory of B Building in the vicinity of the Underground Steam Tunnel continued in 2010. Product is recovered through low-flow submersible pumps installed in a network of recovery wells which pumps the product to a central collection tank. The system is monitored on a

periodic basis and the product collection tank is emptied as necessary. To date, a total of 170 gallons of separate-phase petroleum product have been recovered and disposed of off the site. The system has been operational since December 6, 2008.

4.2.3 South Test Significant Environmental Hazard Remediation

As discussed previously, several soil samples collected from the top two feet of soil during the performance of the South Test Study Area Phase II/Phase III Subsurface Investigation contained benzo(a)pyrene at concentrations greater than thirty times the IDEC. Between October 21, 2010 and October 22, 2010, Loureiro Engineering Associates, Inc. (LEA) personnel completed hand excavation of a 2-foot by 2-foot area to a depth of 2 feet below grade (fbg) at each of the eight discrete sample locations. The excavated soils were placed into drums for offsite disposal in accordance with state and federal regulations.

Following the completion of excavation activities, confirmatory soil samples were collected from the four sidewalls of each excavation area for analysis of benzo(a)pyrene. Following sample collection, the eight excavation areas were backfilled to existing grade with ¾-inch process gravel. With the completion of the excavation and offsite disposal activities, the significant environmental hazards identified in August 2010 were effectively abated prior to the 90-day reporting obligation pursuant to Section 22-6u of the Connecticut General Statutes. Based on the results of the post-excavation confirmatory sampling, additional significant environmental hazard conditions pertaining to the detections of benzo(a)pyrene within the uppermost two-feet of soils at concentrations greater than thirty times the IDEC exist in the vicinity. A significant environmental hazard report for the additional significant environmental hazards will be submitted to the CTDEP on or before February 4, 2011. The notification letter to the CTDEP will state that the observed hazard condition is currently being mitigated through the maintenance of the existing locked fence surrounding the Study Area and through the enforcement of restricted access within this portion of the Site.

4.3 **Stadium Parking Parcels**

UTC/Pratt & Whitney has transferred property identified as the Stadium Parking Parcels which comprise a portion of the Site. The Stadium Parking Parcels consist of four parcels; the “Pickle Parcel”, the “Notch Parcel”, the “North Klondikes Parcel” and the “South Klondikes Parcel” which total approximately 65 acres in area. The Stadium Parking Parcels, located along the eastern portion of the Site, were transferred to the State of Connecticut for use as parking areas for the Rentschler Football Stadium. ECAFs were submitted to the CTDEP in November 2009 for each of these parcels.

The overall remedial objective is to address the underlying soil within the Project Area that have been impacted by VOCs, SVOCs, TPH, PCBs, and metals. The remedial approach consists of the removal of soils with concentrations of constituents in excess of the IDEC and the GB Pollutant Mobility Criteria (GBPMC) of the RSRs. If material had contaminant concentrations greater than the numeric IDEC, reuse of this material within the Stadium Parking Parcels was undertaken to maintain or achieve inaccessibility. While historic remediation activities have been undertaken to satisfy the IDEC and the GBPMC, if impacted soil with contaminant concentrations in excess of these criteria were encountered during the stadium parking construction activities, it was managed in accordance with the RAPs prepared and submitted in May 2010 for each of the four Stadium Parking Parcels.

While the State of Connecticut Office of Policy and Management (OPM) was responsible for the stadium parking construction activities, UTC retained the responsibility for satisfying the remediation obligation for the Stadium Parking Parcels. For the successful completion of the work, the State of Connecticut and UTC worked together for the completion of the activities. The RAPs were prepared and submitted to the CTDEP to document remediation activities and in preparation of the construction activities associated with the Stadium Parking Areas.

5. 2010 MAINTENANCE AND MONITORING ACTIVITIES

This section provides an overview of maintenance and monitoring activities associated with completed remediation projects that were performed during the reporting period.

5.1 Willow Brook and Willow Brook Pond/Willow Street North

The post-remediation activities for this project include monitoring and maintenance of the engineered controls and groundwater monitoring to provide data relative to the effectiveness of the engineered control. These activities were initiated upon completion of the remediation activities in September 2002. In accordance with the *Post Remediation Groundwater Monitoring Plan* and the *Post Remediation Maintenance and Monitoring Program* for the Willow Street North project (approved by the CTDEP on February 10, 2006) groundwater monitoring and maintenance of engineered controls for the Willow Brook and Willow Brook Pond project and the Willow Street North project were combined beginning in September 2006. In August 2010 CTDEP granted approval to modify the Willow Brook and Willow Brook Pond groundwater monitoring program. The modifications to the monitoring program included a reduction in the monitoring frequency from quarterly to semi-annually and the discontinued sampling of four monitoring wells. Further modifications to the groundwater monitoring program will be evaluated, with respect to compliance with the RSRs, after an additional semi-annual monitoring event is completed in March 2011.

In accordance with the August 2010 CTDEP approval, the 2010 annual report documenting the monitoring and maintenance of the engineered controls and groundwater monitoring associated with the Willow Street North and the Willow Brook and Willow Brook Pond projects was submitted to the CTDEP on December 28, 2010 (prior to the end of the 2010 calendar year). To maintain consistency with prior annual reports, a copy of the December 28, 2010 report is included as Appendix A of this report. For years going forward, LEA requested a written authorization from the CTDEP to submit the Willow Brook & Willow Brook Pond Annual Report as part of the Corrective Action Annual Report, which is due on January 30th. To date, LEA has not received a response from the CTDEP.

5.2 F Building and H Building

The post-remediation activities for this project include monitoring and maintenance of the engineered controls and groundwater monitoring to provide data relative to the effectiveness of the engineered control. These activities were initiated in the first quarter of 2007 and will continue until such a time as the cessation of the activities is approved by the CTDEP. In March

2010, a request was submitted to the CTDEP for approval to modify the F Building and H Building groundwater monitoring program. The proposed modifications to the monitoring program included a reduction in the monitoring frequency from quarterly to semi-annually and the discontinued sampling of five monitoring wells. A report documenting the 2010 monitoring and maintenance of the engineered controls and groundwater monitoring associated with the F Building and H Building remediation project is included as Appendix B of this report.

6. COST ESTIMATE

This section presents the cost estimate for planned corrective action activities at the facility. From a meeting with CTDEP staff on February 24, 2006 and subsequent correspondence (dated June 29, 2006; July 25, 2006; and August 17, 2006) the cost estimate has been prepared as follows:

- Financial assurance will be provided for the cost of performing site-wide investigation, the implementation of Remedial Action Plans that have been submitted to the CTDEP for review, and the performance of long term operation, maintenance and monitoring associated with Remedial Action Plans that have been implemented.

- Once a Remedial Action Plan has been implemented, the costs associated with that activity will be subtracted from future financial assurance cost estimates.

The cost estimate is provided in Appendix C. The current financial assurance estimate is $6,212,100 which is $553,400 less than the financial assurance estimate presented in January 2010. The changes in the financial assurance estimate in comparison to the estimate presented in January 2010 are as follows:

- A reduction of $78,000 as the remaining portion of the A Building investigation activities were completed in 2010;

- A reduction of $120,000 as the South Test area investigation was completed in 2010;

- A reduction of $167,000 as approximately 75% of the E Building investigation activities were completed in 2010;

- A reduction of $25,000 for operation and maintenance activities associated with B Building as the initial estimate was for the operation and maintenance of the Steam Tunnel Product Recovery System for a period of three years and the system has been in operation for two of the three years;

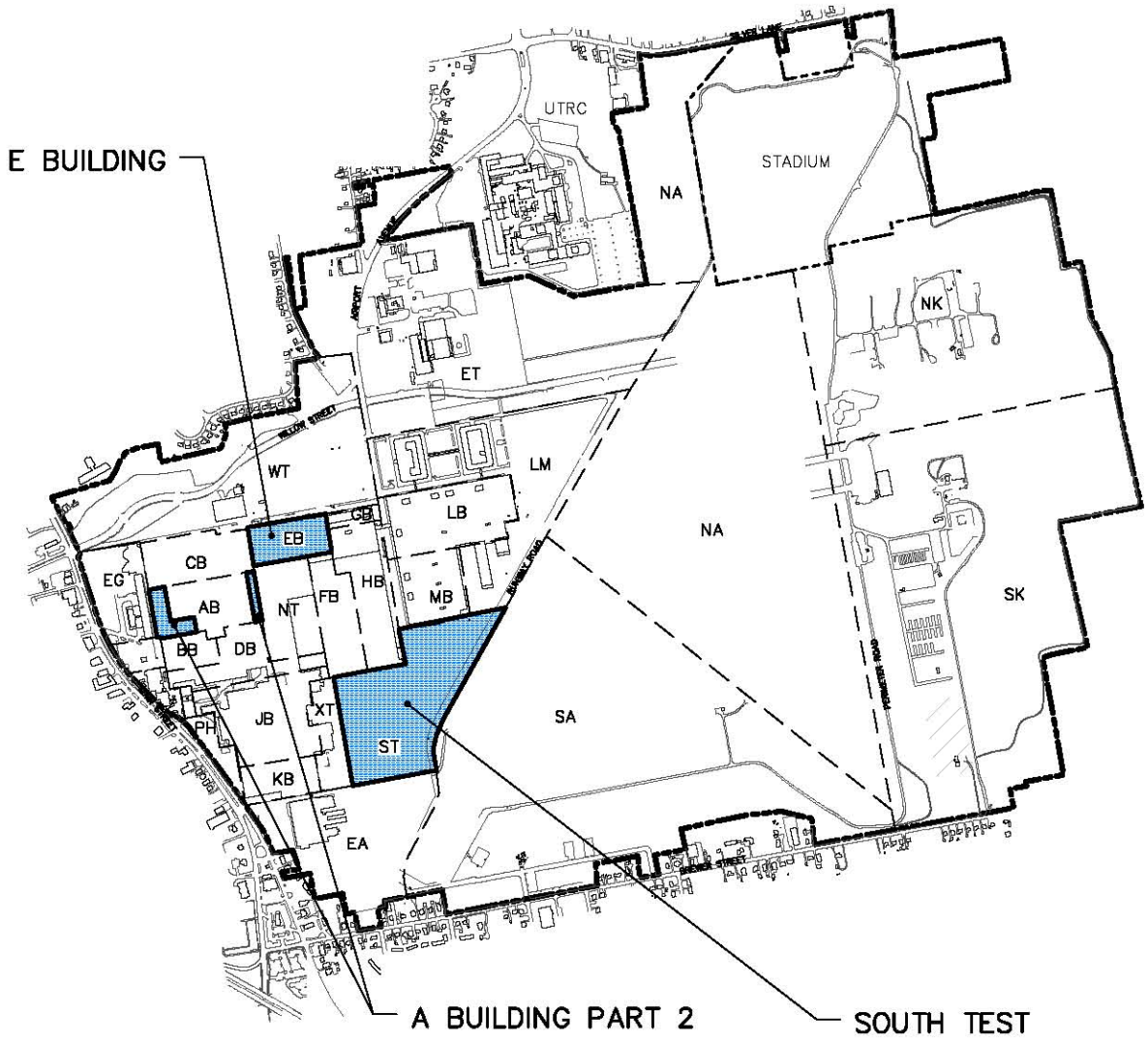
- An increase of $22,000 for operation and maintenance activities associated with F Building to account for the fourth year of operation and maintenance of the Engineered Control in this area of the site (this will increase by $23,000 next year bringing the total to five years required pursuant to Section 22a-133k-2(f)(2)(B)(vi) of the Regulations of Connecticut State Agencies);

- A reduction of $400 for operation and maintenance activities associated with G Building to account for the completion of the first year of inspections activities associated with the SSVS; and

- A reduction of $185,000 associated with the reduction of groundwater monitoring frequency (from quarterly to semi-annual) and well locations (reduction of four locations) for the Engineered Control for Willow Brook and Willow Brook Pond/Willow Street North.

The financial assurance mechanism has been established and is currently in place.

FIGURES



STUDY AREA DESIGNATIONS

Study Area Abbreviation	Study Area Name
EA	Engineering Area
EG	Executive Garage
ET	ETAL
LM	Area Outside L Building and M Building
NT	North Test
PH	Powerhouse
ST	South Test
WT	Waste Treatment
XT	Experimental Test
AB	A Building
BB	B Building
CB	C Building
DB	D Building
EB	E Building
FB	F Building
GB	G Building
HB	H Building
JB	J Building
KB	K Building
LB	L Building
MB	M Building
NA	North Airport
SA	South Airport
NK	North Klondike
SK	South Klondike

LEGEND

Property Line

Study Area Boundary

Investigation Area

750 0 750 1500 2250

SCALE IN FEET

CORRECTIVE ACTION ANNUAL REPORT

UTC/Pratt & Whitney Division, 400 Main Street, East Hartford, CT

Generalized Areas of Investigation – 2010 Reporting Period

Comm.No. 88UT716

FIGURE 3–1

LEA

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Appendix A

2010 Annual Post Remediation Maintenance and Groundwater Monitoring Report
Willow Brook and Willow Brook Pond
East Hartford, Connecticut

(Volume 2 of 3)

Appendix B

2010 Annual Post Remediation Maintenance and Groundwater Monitoring Report
F & H Buildings
East Hartford, Connecticut

(Volume 3 of 3)

Appendix C

Cost Estimate for Corrective Action Activities

Financial Assurance Estimates
DEP Permit HWM-043-061
Pratt & Whitney East Hartford, CT
January 2011

	Investigation	RAP implementation for 2010	Current O&M	Subtotal	
A Building	$ -	$ -	$ -	$ -	
B Building	$ 195,000	$ -	$ 25,000	$ 220,000	[1]
C Building	$ 321,000	$ -	$ -	$ 321,000	
D Building	$ 336,000	$ -	$ -	$ 336,000	
E Building	$ 55,000	$ -	$ -	$ 55,000	
F Building	$ -	$ -	$ 90,000	$ 90,000	[2]
G Building	$ -	$ -	$ 93,700	$ 93,700	[3]
H Building	$ -	$ -	see F bldg	$ -	
J Building	$ 372,000	$ -	$ -	$ 372,000	
K Building	$ 183,000	$ -	$ -	$ 183,000	
L Building	$ 186,000	$ -	$ -	$ 186,000	
M Building	$ 273,000	$ -	$ -	$ 273,000	
L&M Area	$ -	$ -	$ -	$ -	
South Production Test	$ -	$ -	$ -	$ -	
North Test Area	$ 325,000	$ -	$ -	$ 325,000	
Power House	$ 252,000	$ -	$ -	$ 252,000	
Experimental Test (including South Experimental Test)	$ 156,000	$ -	$ -	$ 156,000	
Waste Treatment	$ 300,000		$ 980,000	$ 1,280,000	[4]
Engineering Area	$ -	$ -	$ -	$ -	
Executive Garage	$ 69,000	$ -	$ -	$ 69,000	
Experimental Testing Airport Laboratory (ETAL)	$ 255,000	$ -	$ -	$ 255,000	
Groundwater	$ 250,000	$ -	$ 1,445,400	$ 1,695,400	[5]
Ecological Risk	$ 50,000	$ -	$ -	$ 50,000	
Total	$ 3,578,000	$ -	$ 2,634,100	**$ 6,212,100**	

Notes:

[1] Obligation associated with LNAPL recovery system project

[2] Long-term obligations associated with F&H Bldg remediation project

[3] Long-term obligations associated with G-building remediation project

[4] Long-term obligations associated with Willow Brook, Willow Pond and Willow Street remediation projects and hexavalent chromium hydraulic control

[5] Operation and maintenance of groundwater treatment systems in basements and tunnels